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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/686,277	10/14/2003	Scott C. Moose	85435THC	7227

7590

04/18/2006

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EXAMINER

BAREFORD, KATHERINE A

ART UNIT	PAPER NUMBER
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1762

DATE MAILED: 04/18/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/686,277	Applicant(s) MOOSE, SCOTT C.	
	Examiner Katherine A. Bareford	Art Unit 1762	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 05 April 2006.
 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-12 is/are pending in the application.
 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
 5) ☐ Claim(s) _____ is/are allowed.
 6) ☒ Claim(s) 1,4-6,9,10 and 12 is/are rejected.
 7) ☐ Claim(s) _____ is/are objected to.
 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Claims 2, 3, 7, 8 and 11 are canceled

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 a) ☐ All b) ☐ Some * c) ☐ None of:
 1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on April 5, 2006 has been entered.

The after final amendment of Feb. 21, 2006 has been entered and considered as requested by the RCE submission of April 5, 2006.

With the entry of the Feb. 21, 2006 amendment, claims 2, 3, 7, 8, and 11 have been canceled, and claims 1, 4-6, 9-10 and 12 are pending for examination.

Claim Rejections - 35 USC § 112

2. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

3. Claims 1, 4-6, 9-10 and 12 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to

reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

(A) In claim 1, section c) applicant had previously amended the claim to require that the coating occur "without any electric field being imposed between the coating hopper and the web" and in claim 6, last two lines, applicant had previously amended the claim to require that "wherein no electric field is imposed between the bead coating hopper and the backing roller" (both amendments made in the amendment of June 27, 2005). Upon further review of these amendments, the Examiner finds that these amendments were not supported by the application as originally filed, and therefore, contain new matter. The disclosure as originally filed contained no mention at all of the presence or absence of an electric field. As discussed in MPEP 2173.05 (i),

Any negative limitation or exclusionary proviso must have basis in the original disclosure. If alternative elements are positively recited in the specification, they may be explicitly excluded in the claims. See *In re Johnson*, 558 F.2d 1008, 1019, 194 USPQ 187, 196 (CCPA 1977) ("[the] specification, having described the whole, necessarily described the part remaining."). See also *Ex parte Grasselli*, 231 USPQ 393 (Bd. App. 1983), *aff'd mem.*, 738 F.2d 453 (Fed. Cir. 1984). **The mere absence of a positive recitation is not basis for an exclusion. Any claim containing a negative limitation which does not have basis in the original disclosure should be rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. (emphasis added)** Here, as there is no basis in the original disclosure for the negative limitation, the addition of the negative limitation is new matter.

(B) In claim 1, section c) now requires "where organic solvent-based liquid composition polyvinyl butyral in methyl ethyl ketone is applied" and claim 12 requires,

"said liquid coating composition is polyvinyl butyral in methyl ethyl ketone". As worded, this indicates that the coating material is made up of only polyvinyl butyral and methyl ethyl ketone. However, a review of the disclosure as originally filed provides that the single description of a particular coating material applied is that the coating material was "polyvinyl butyral in methyl ethyl ketone with a dye". See page 4, lines 14-15.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 6, 9 and 10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Suzuki et al (US 5552188) in view of Quiel et al (US 2002/0164431), Jones (US 3877124) and Link et al (US 5431321).

Claim 6: Suzuki teaches a method and apparatus for coating a liquid composition from an applicator to a surface of a moving web. Figure 1 and column 1, lines 5-10 and column 4, lines 55-65. The web is conveyed along a path through a coating apparatus. Figure 1 and column 4, lines 55-65. The coating apparatus includes a coating station for applying a coating to the surface of the web. Figure 1 and column 4, lines 55-65. The

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coating station includes a backing roller for supporting the web and a bead coating hopper for depositing a liquid coating on the web. Figure 1 and column 4, lines 55-65. The web is partially wrapped around the backing roller. Figure 1. A source of an organic solvent-based liquid coating composition for bead coating the web can be provided. Figure 1 and column 4, lines 5-10 and 55-65. The web is transported past the coating station, where the organic solvent based liquid composition is applied in a bead coating to the surface of the web from the coating hopper. Figure 1 and column 4, lines 55-65. No electric field is imposed between the coating hopper and the web. Figure 1 and column 4, lines 55-65 (note that no electric field is indicated as being present).

Suzuki teaches all the features of these claims except the use of the grooved backing roller and its features and results.

Quiel teaches, in the background, that it is known when coating from a coating die or hopper onto a moving web substrate to precisely position and support the substrate by guiding the substrate around a rotating backing roller spaced apart from the coating device. Paragraph [0002]. Quiel further teaches that the web surfaces carry boundary layers of air, with the boundary layer on the back surface (on the side facing the backing roller) causing a problem as the web is drawn into the entrance nip formed between the web and backing roller. Paragraphs [0002] – [0003]. Quiel teaches that it is well known in the prior art to relieve the back side boundary air layer by providing any of various incuse patterns on the surface of the backing roller, including providing circumferential shallow grooves (microgrooves), citing US 4,428,724, to Levy. Paragraph

[0005]. The width of the relived surface on the backing roller is equal to or greater than the width of the liquid coating to be applied to the web. Paragraph [0040].

Jones teaches that in coating or other treatment processes for web, there is at least one power transmitting roller around which the web is partially lapped in order to drive the web. Column 1, lines 1-20. A problem experienced with these rollers is that the webs do not tightly lap the roller and thus is not driven efficiently by the roller. This problem is caused by air becoming entrapped by the roller. Column 1, lines 5-20. Jones teaches that this fault is often overcome by providing a microgroove surface on the roller. Column 1, lines 5-20. Jones teaches that a desirable way to form a microgroove surface on a roller is to cover the driving surface of the roller with a helically wound filament of plastic or metal. Column 1, lines 35-50 and figure 2. The diameter of the filament can be 0.0025 to 0.025 inch. Column 1, lines 45-50.

Link teaches that web guide rolls that conduct a material web can have a problem at high speeds that an air cushion forms between the outer surface of the web guide roll and the web, causing the web to begin to float on the air cushion. Column 1, lines 5-30. Link teaches that to avoid this problem a wire or metal belt or plastic material can be wound around the roll, with the winding providing grooves on the roll. Column 2, lines 10-25. Link teaches that desirable patterns of winding include those where the winding is with circular cross section wire that is abutted. Column 4, lines 20-30 and figure 4A. Link also teaches that the variants can be tailored to the material web to be transported. Column 4, line 20-30. As shown in figure 4A, when the wires are

abutted, the diameter of the wire forms the "pitch" between grooves, and 1 groove would be formed for every diameter of the wire.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Suzuki to provide shallow grooves on the backing roller of the dimensions as suggested by Quiel, Jones and Link in order to provide a desirable relieving of back side boundary air, because Suzuki teaches a bead coating process where the web passes around a rotating backing roller spaced from the coating hopper during the coating process, and Quiel teaches that when performing a bead coating process where the web passes around a rotating backing roller spaced from the coating hopper during the coating process it is well known to be desirable to form microgrooves on the backing roller to remove undesirable back side boundary air, and Jones and Link further teach grooved roller patterns formed with a winding wire that provide desirable groove shapes for reducing back side boundary air. As Jones teaches the desired wire diameter of 0.0025 to 0.025 inch and Link teaches the use of abutted wires, one groove would be formed for every diameter of the abutted wire. As a result, 40 to 400 grooves would be provided per inch. As it is suggested to tailor the pattern to the particular web to be used as taught by Link, one of ordinary skill in the art would perform routine experimentation to optimize the diameter of the wire based on the coating web to be used. The size of the wire also controls the depth of the "grooves" formed in the abutting wires, since as shown by Figure 4A of link, the depth would be about half the diameter of the wires), and thus a depth of 90 microns would be in the

range of the wire size taught by Jones. Furthermore, this combination would inherently provide a geometry and depth such that any temperature gradient in the web caused by the grooves in the backing roller does not disturb the coating applied by the coating apparatus. (This is shown because the range of grooves and depths taught by the references is within the ranges provided by applicant in the specification to prevent disturbance). It would further have been obvious to modify the references to provide that the width of the relieved surface on the backing roller is equal to or greater than the width of the liquid coating to be applied to the web as provided by Quiel, because to provide the relieving over the entire dimensions of the web would provide for removal of the back side air boundary layer at all positions across the web.

6. Claims 1, 4, 5 and 12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Suzuki in view of Quiel, Jones and Link as applied to claims 6, 9 and 10 above, and further in view of Yapel et al (US 5837324).

Suzuki in view of Quiel, Jones and Link teach all the features of these claims except the polyvinyl butyral in methyl ethyl ketone coating composition. Suzuki does teach that the coating composition can be organic, with a methyl ethyl ketone solvent. Column 4, lines 5-10.

Yapel teaches that for slide coating, preferred coatings can include organic solvent based solutions, with a solid component including a binder such a polyvinyl

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butyral and a solvent such as methyl ethyl ketone. Column 4, lines 15-40 and column 3, lines 25-40.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Suzuki in view of Quiel, Jones and Link to use a coating material that is made up of polyvinyl butyral in methyl ethyl ketone as suggested by Yapel when performing a desirable slide bead coating process because Suzuki in view of Quiel, Jones and Link teach performing a slide bead coating process where an organic solvent can be used, and Yapel teaches that when performing slide coating, desirable coating liquid can have polyvinyl butyral in methyl ethyl ketone.

Response to Arguments

7. Applicant's arguments with respect to claims 1, 4-6, 9-10 and 12 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Katherine A. Bareford whose telephone number is (571) 272-1413. The examiner can normally be reached on M-F(6:00-3:30) with the First Friday Off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Timothy Meeks can be reached on (571) 272-1423. The fax phone numbers for the organization where this application or proceeding is assigned are (571) 273-8300 for regular communications and for After Final communications.

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Other inquiries can be directed to the Tech Center 1700 telephone number at (571) 272-1700.

Furthermore, information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


KATHERINE BAREFORD
PRIMARY EXAMINER